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10/671,718	09/29/2003	Yuichi Ogawa	500.43154X00	9914

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EXAMINER	
KIM, PAUL	

ART UNIT	PAPER NUMBER
2169	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/671,718	OGAWA ET AL.	
	Examiner	Art Unit	
	PAUL KIM	2169	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 November 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office action is responsive to the following communication: Amendment filed on 12 November 2008.

2. Claims 21-24 are pending and present for examination.

Response to Amendment

3. No claims have been amended.

4. Claims 1, 3, 6, 7, 9, 10, 16, and 18-19 have been cancelled.

5. Claims 21-24 have been newly added.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. **Claims 21 and 23** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The method claim of the aforementioned claims fails to fall within the statutory categories of 35 U.S.C. 101 because the method claim is neither (1) tied to another statutory class (i.e. particular machine or apparatus) nor does it (2) transform underlying subject matter (such as an article or material) to a different state or thing. Accordingly, the method claim (i.e. a process) may be performed mentally or manually in a manner that reasonably accomplishes the intended purpose of the recited invention, as claimed, without the use of a structure. That is, the method claim fails to positively recite the particular machine or apparatus to which it is tied.

8. **Claims 22 and 24** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Wherein the claims a system in the preamble but fail to recite the use of hardware components within the claim limitations, the system may be software per se. That is, the

claims fail to recite the integration of the claimed features within a computer hardware system for execution. Furthermore, it is noted that the recited modules constitute software elements, failing to provide a hardware component within the system. Therefore, since the claims simply recite but simply recite steps of implementation, said claims constitute non-statutory subject matter since they fail to fall within a statutory category.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. **Claims 21-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Numata (U.S. Patent No. 5,943,669, hereinafter referred to as NUMATA), filed on 21 November 1997, and issued on 24 August 1999, in view of Mohan et al (U.S. Patent No. 6,970,881, hereinafter referred to as MOHAN), filed on 1 March 2002, claiming provisional priority to 7 May 2001, and issued on 29 November 2005, in further view of Yadav et al (USPGPUB No. 2004/0186828, hereinafter referred to as YADAV), filed on 23 December 2003, claiming provisional priority to 24 December 2002, and published on 23 September 2004, and in further view of Inaba et al (USPGPUB No. 2003/0004928, hereinafter referred to as INABA), filed on 3 September 2002, and published on 2 January 2003.

11. **As per independent claims 21 and 22,** NUMATA, in combination with MOHAN, YADAV, and INABA, discloses:

> A document search method for finding a document relevant to a search condition from object documents as search objects, comprising the steps of:
>
> acquiring a seed text which is inputted as the search condition {See NUMATA, C33:L11-16, wherein this reads over "a query is first input by means of query input section 28"};
>
> partitioning the object document into a plurality of blocks {See NUMATA, C5:L42-59, wherein this reads over "[f]undamental vector generation section 4 partitions the logical structure of

the documents that were analyzed in logical structure analysis section 4 by means of the classification units that were designated by classification unit designation section 2"};

calculating similarity of each block of the object document to the seed text {See NUMATA, C33:L22-27, wherein this reads over "the comparison of the query vector and the composite vectors is performed"};

judging whether or not the calculated similarity of each block satisfies a predetermined condition;

calculating a similarity of the object document as a whole to the seed text, based on the calculated similarity of each block to the seed text {See NUMATA, C2:L56-66, wherein this reads over "the degree of similarity between the query and chapter headings, as well as the degree of similarity between the query and paragraphs, are calculated respectively"};

calculating, as an inclusion degree for each object document, a ratio of the number of blocks that are judged as satisfying said predetermined condition to the total number of the plurality of blocks {See MOHAN, C16:L22-29, wherein this reads over "Concept presence ratio (R_c): This is the ratio of number of times a concept occurs in an object (n_c) over the total of all the concepts that occur in an object (n_{tc})"} resulting from the partitioning of the object document {See YADAV, [0050], wherein this reads over "a document's score is a function of: (a) whether or not a query term is found in the document's title; (b) whether or not a query is found in a figure legend of the document; (c) the frequency with which each query term is found in the document's abstract; (d) the frequency with which each query term is found in the document's main body"}; and

outputting for display a list of object documents showing each object document in association with the calculated inclusion degree therefore, and in association with the similarity of each listed object document as a whole to the seed text {See NUMATA, C33:L17-27, wherein this reads over "the comparison of the query vector and the composite vectors is performed (step S44 of FIG. 17) and is displayed on display section 31 along with the structural elements of the corresponding retrieval units in descending order of the degree of similarity between the composite vectors and the query vector"};

providing an interface for setting a threshold value for said degree and a threshold value for said similarity {See INABA, [0239], wherein this reads over "each delivery threshold value may be initialized to a value determined by a manager or may be set to a value inputted by user"}; and

displaying only those object documents in the form of a list of search results that satisfy both or one of said threshold values {See NUMATA, C20:L61-67, wherein this reads over "a constant degree of similarity is established as the threshold value when there is practical use, and structural elements of retrieval units of a degree of similarity below the threshold value are made so as to not be displayed"}.

While NUMATA may fail to expressly disclose the calculation of an inclusion degree for reach object document, the combination of MOHAN and YADAV would disclose an invention wherein the frequency of each query term, or concept, in a section of the document such as the abstract or main body (i.e. the number of blocks that are judged as satisfying a predetermined condition) may be used in the calculation

of a ratio wherein said frequency of query term, or concept, would be compared to the total number of concepts, or terms, in the object (i.e. the total number of the plurality of blocks in the partitioned object document). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by NUMATA by combining it with the invention as disclosed by MOHAN and YADAV.

One of ordinary skill in the art would have been motivated to do this modification so that the calculated inclusion degree may be used in determining the relative similarity of the seed text to the object document.

While the combination of NUMATA, MOHAN, and YADAV may fail to expressly disclose the method step of providing an interface for setting a threshold value for said degree and a threshold value for said similarity, INABA discloses a method wherein a user may set the delivery threshold value for determining which texts to deliver. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by NUMATA, MOHAN, and YADAV by combining it with the invention as disclosed by INABA.

One of ordinary skill in the art would have been motivated to do this modification so that the user may further limit the search results according to a preset threshold value.

12. **Claims 23-24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Numata, in view of Mohan et al, in further view of Yadav et al, and in further view of Schilit et al (U.S. Patent No. 6,842,876, hereinafter referred to as SCHILIT), filed on 14 April 1998, published on 2 May 2002, and issued on 11 January 2005.

13. **As per independent claims 23 and 24,** NUMATA, in combination with MOHAN, YADAV, and SCHILIT, discloses:

A document search method for finding a document relevant to a search condition from object documents as search objects, comprising the steps of:

acquiring a seed text which is inputted as the search condition {See NUMATA, C33:L11-16, wherein this reads over "a query is first input by means of query input section 28"};

partitioning the object document into a plurality of blocks {See NUMATA, C5:L42-59, wherein this reads over "[f]undamental vector generation section 4 partitions the logical structure of the documents that were analyzed in logical structure analysis section 4 by means of the classification units that were designated by classification unit designation section 2"};

calculating similarity of each block of the object document to the seed text {See NUMATA, C33:L22-27, wherein this reads over "the comparison of the query vector and the composite vectors is performed"};

judging whether or not the calculated similarity of each block satisfies a predetermined condition;

calculating a similarity of the object document as a whole to the seed text, based on the calculated similarity of each block to the seed text {See NUMATA, C2:L56-66, wherein this reads over "the degree of similarity between the query and chapter headings, as well as the degree of similarity between the query and paragraphs, are calculated respectively"};

calculating, as an inclusion degree for each object document, a ratio of the number of blocks that are judged as satisfying said predetermined condition to the total number of the plurality of blocks {See MOHAN, C16:L22-29, wherein this reads over "Concept presence ratio (R_c): This is the ratio of number of times a concept occurs in an object (n_c) over the total of all the concepts that occur in an object (n_{tc})"} resulting from the partitioning of the object document {See YADAV, [0050], wherein this reads over "a document's score is a function of: (a) whether or not a query term is found in the document's title; (b) whether or not a query is found in a figure legend of the document; (c) the frequency with which each query term is found in the document's abstract; (d) the frequency with which each query term is found in the document's main body"}; and

outputting for display a list of object documents showing each object document in association with the calculated inclusion degree therefore, and in association with the similarity of each listed object document as a whole to the seed text {See NUMATA, C33:L17-27, wherein this reads over "the comparison of the query vector and the composite vectors is performed (step S44 of FIG. 17) and is displayed on display section 31 along with the structural elements of the corresponding retrieval units in descending order of the degree of similarity between the composite vectors and the query vector"};

providing an interface for setting sort keys with respect to said inclusion degree and said similarity {See SCHILIT, C9:L51-67, wherein this reads over "[t]he user changes the sort variable by selecting the heading of the respective column"}; and

re-sorting values in the list of object documents based on a selected key {See SCHILIT, C9:L51-67, wherein this reads over "[t]he user changes the sort variable by selecting the heading of the respective column"}.

While NUMATA may fail to expressly disclose the calculation of an inclusion degree for reach object document, the combination of MOHAN and YADAV would disclose an invention wherein the frequency of each query term, or concept, in a section of the document such as the abstract or main body (i.e. the number of blocks that are judged as satisfying a predetermined condition) may be used in the calculation of a ratio wherein said frequency of query term, or concept, would be compared to the total number of

concepts, or terms, in the object (i.e. the total number of the plurality of blocks in the partitioned object document). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by NUMATA by combining it with the invention as disclosed by MOHAN and YADAV.

One of ordinary skill in the art would have been motivated to do this modification so that the calculated inclusion degree may be used in determining the relative similarity of the seed text to the object document.

While the combination of NUMATA, MOHAN, and YADAV may fail to expressly disclose the method step of "providing an interface for setting sort keys" and "re-sorting values in the list of object documents based on a selected key," SCHILIT discloses an invention wherein a sort variable may be changed by selecting the heading of the respective column. That is, wherein the columns may reflect the inclusion degree or similarity degree, a user may select the heading of the respective column such that the results are sorted by inclusion degree or similarity degree. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by NUMATA, MOHAN, and YADAV by combining it with the invention as disclosed by SCHILIT.

One of ordinary skill in the art would have been motivated to do this modification so that the user may sort the results according to either the inclusion degree or similarity.

Response to Arguments

14. Applicant's arguments with respect to claims 21-24 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL KIM whose telephone number is (571)272-2737. The examiner can normally be reached on M-F, 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tony Mahmoudi can be reached on (571) 272-4078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Paul Kim/

Paul Kim
Examiner, Art Unit 2169
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